The effect of pattern of nutrient supply during lamb growth on the digestive tract proportions. By T. MANSO, A. R. MANTECÓN, M. A. CHASO, P. LAVIN and T. CASTRO, *Estacion Agrícola Experimental (CSIC). Apdo 788. 24080 León, Spain*

The effect of level of intake during the milk-fed period and energy:protein (E:P) relationships during the post-weaning period on the digestive tract components of Churra lambs was investigated.

Four lambs were slaughtered at 2 d old (I group, 2·87 (SD 0·19 kg) empty body weight; EBW) and twenty-four lambs were assigned to a 2×2 factorial design defined by two levels of intake (1·5 and 0·9 MJ GE/$kg^{0·75}$ per d) during the milk-fed period, and two diets (HP, lucerne hay and barley plus 200 g fish-meal/kg; LP, lucerne hay plus barley). In both diets a vitamin–mineral supplement was used. The hay and concentrate were independently offered *ad lib*.

Four lambs of each level of intake (high-WH and low-WL) were slaughtered at weaning (4 weeks of milk-feeding) at 8·79 (SD 0·18; WH) and 5·62 (SD 0·46; WL) kg EBW and sixteen post-weaning lambs were slaughtered (F group) at 16·57 (SD 0·63) kg EBW.

At slaughter, EBW was estimated and empty digestive components after removal of fat were weighed. The results are calculated as proportion of EBW.

There were differences ($P<0·05$) between the I group and the weaning groups in the relative size of the components of the digestive tract with a higher value in the I group for the omasum (OM; 0·0032(I) *v.* 0·0012(WH) *v.* 0·0025(WL)), small intestine (SI; 0·0319(I) *v.* 0·029(WH) *v.* 0·0272(WL)) and caecum (0·0032(I) *v.* 0·0016(WH) *v.* 0·0018(WL)) and a lower value in the reticulo-rumen (RR; 0·0057(I) *v.* 0·0072(WH) *v.* 0·0103(WL)). There were differences ($P<0·05$) between WH and WL groups with a lower value for the RR and OM and a higher value for SI in the WH group.

In the F group there were differences ($P<0·01$) between HP and LP groups with a higher value for HP in the RR (0·0427 *v.* 0·0368) and a lower value in abomasum (AB; 0·005 *v.* 0·0059) and large intestine (LI; 0·0085 *v.* 0·0101). The effect of preweaning level of intake was significant in AB ($P<0·05$) with a lower value in WL than WH group (0·0050 *v.* 0·0058). The effect of E:P ratio on the proportions in the LI was significant ($P<0·05$) when the lambs had a low level of intake during the milk-fed period (0·0109(LP) *v.* 0·0080(HP)).

The E:P ratio during the post-weaning period affected the digestive tract proportions and this effect depended on the previous level of intake during the milk-feed period; both factors must be taken into account when digestive utilization is being considered.

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